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## Cal/EPA Environmental Justice Action Plan
## SWRCB New River (Calexico) Pilot Project Update
## April 16, 2007

**I. Lead Cal/EPA Board, Department or Office (BDO):** State Water Resources Control Board (SWRCB)

**II. Project Area:** The New River - from California/Mexico Border through the City of Calexico, into the Imperial Valley and north to the Salton Sea.

**Area Demographics:** The New River area is a rural, desert and farming geographic region extending from the United States (US)/Mexico border at the City of Calexico northward toward the Salton Sea. The New River originates in Mexicali, Mexico, enters the US/California at the City of Calexico, flows into the Imperial Valley, and drains north into the Salton Sea. The Salton Sea is the largest inland surface water body in California.

The Imperial Valley has an agricultural based economy and is the tenth ranked agricultural county in the State, producing over $1 billion dollars in revenue annually (California Department of Food and Agriculture (CDFA) 1998). The 2003 US Census estimates the population of Imperial County to be 149,232 of which 75 percent are of Mexican descent; 68 percent speak a language other than English at home; 32 percent are under the age of 18; 33 percent are foreign born; and household per capita income is $13,239. Imperial County has one of the highest unemployment rates in the state with over 26 percent and school dropout rates at about 20 percent. Finally, the Census Bureau estimates that over a third of the residents in the county lack health insurance.

The City of Calexico (located in Imperial County) is located 100 miles east of San Diego and about 20 miles west of Yuma, Arizona. The population of Calexico is about 28,000.

**III. Background:** The New River entering the City of Calexico is contaminated by pathogen-indicator bacteria, trash, volatile organic constituents, nutrients, and other oxygen demanding constituents from discharges of wastes from Mexico. It then travels approximately 60 miles through the Imperial Valley where it is fed by the following:

- **A.** Agricultural return water discharged to agricultural drains owned and operated by the Imperial Irrigation District (accounting for about 2/3 of the River's flow).
- **B.** Treated Municipal and Industrial wastewater.
- **C.** Stormwater and urban runoff.

As the New River flows northward through the Imperial Valley on its way to the Salton Sea, silt, pesticides, and more nutrients further impair the river's beneficial uses. Table 1 provides a breakdown of the sources of flow in the New River.

**Table 1. Sources of Flow in the New River**

| Source | Flow (% of 438,400 Acre-Feet/year) |
|---|---|
| **American Sources** | |
| Agricultural runoff | 62% |
| Treated Municipal and Industrial wastewater | 2% |
| Stormwater and urban runoff | <0.5% |
| **Mexican Sources** | |
| Agricultural runoff | 25% |
| Treated & untreated Municipal & Industrial wastewater | 8% |
| Stormwater, urban runoff, other | 2.5% |

Calexico residents have attributed their illnesses, including cancer, rashes, loss of hair, and difficulty breathing to the New River. Over the last 50 years, there have been many fragmented efforts at all levels to address this problem. The Calexico New River Committee, Inc. (CNRC) is a private non-profit corporation founded in 2001. The membership is comprised of Calexico area community leaders and public officials. The Chairman of the Committee is Mr. Rudy Maldonado, who up until last year served as Division 5 Board Director of the Imperial Irrigation District. The CNRC Executive Director is Mr. Miguel Figueroa.

In the winter of 2004, the CNRC asked SWRCB to consider the New River as an Environmental Justice Pilot Project. The CNRC specifically requested assistance in addressing growing environmental concerns and explained that the Committee had been met with support and opposition at differing levels of government. The SWRCB outlined the New River Pilot Project to the CEJAC on June 3, 2005. The California Regional Water Quality Control Board, Colorado River Basin Region (Regional Board or RB), is assisting the SWRCB in implementing the project.

## IV. Project Start Date: May 2005

**Project Goals and Objectives:** The overarching goal of the Project is to develop and implement a Children's Health Environmental Risk Reduction Plan (ChERRP) and to assess the cumulative impacts of the New River contamination on the community. In this context, the objectives of the project are the following:

- **A.** Establish a Regional Advisory Group comprised of community, government and Tribal members impacted by decisions or activities along the New River and conduct meetings on a regular basis for the duration of the Pilot Project.
- **B.** Identify best methods for maximizing public and Tribal participation.

**C.** Research and provide all available health data for Group review and identify tools to conduct cumulative impact analysis.
**D.** Research and inventory all tried or proposed precautionary approaches.
**E.** Develop and implement a children's environmental risk reduction plan (ChERRP).
**F.** Evaluate existing and, as necessary, establish new long-term strategies to reduce farm runoff contaminants.
**G.** Evaluate existing and, as necessary, establish new long-term strategies to work with the Mexican government to reduce raw sewage flows in the New River.

## V. Project Status:

### a. Regional Advisory Group (a.k.a. Regional Advisory Committee (RAC))

In June 2005, the CNRC and SWRCB conducted public outreach and education to publicize the project and recruit membership for the RAC. The SWRCB sent letters of invitation to area leaders, environmental groups, community representatives, and the Torres-Martinez Tribe asking for their participation in the RAC. The letters of invitation were followed by personal phone calls to the invitees. A total of 32 individuals and organizations were invited in and outside the Calexico area.

During the months of July and August 2005:

- The CNRC Executive Director presented the project to the International Boundary and Water Commission's Colorado River Citizen's Forum on 8/11/05.
- CNRC posted notices in English and Spanish about the project in its web site and conducted its own mail campaign to recruit membership and advertise the project locally.
- SWRCB hired the Delta Collaboration (University of California at Davis (UC Davis) subcontractor) to facilitate public meetings for the project and make arrangements to provide immediate translation services for the project kick off meeting.
- SWRCB staff publicized the project through Radio Bilingüe, a popular Spanish radio station that reaches the Calexico area (8/24/05).

The first public meeting (kick off meeting) of the project was held on September 2, 2005, at the San Diego State University (SDSU) – Calexico Campus, in the evening. Approximately 22 people attended the meeting. SWRCB provided immediate translation services for every meeting participant who requested it. The main purpose of the meeting was to describe the project's background and objectives, hear from the participants on how to address EJ issues, and establish the RAC. Former SWRCB Executive Director Celeste Cantu led the meeting. Mr. Rudy Maldonado provided the CNRC perspective on the New River. The meeting yielded the following RAC membership:

| Name | Affiliation |
|---|---|
| Pablo Orozco | CNRC, Executive Director |
| Ron Gaul | Salton Sea Coalition, Ocotillo resident |
| Ron Enzweiler | Salton Sea Authority Executive Director |
| Hildy Carrillo Rivera | Calexico Chamber of Commerce, Executive Director |
| Jose Carrillo | Imperial County Office of Education |
| Jose Lopez | Campesinos Unidos, Calexico Office |
| Ray Falcon | Calexico Heffernan Memorial Hospital Board |
| Javier Alatorre | Calexico resident |
| Al Goff | International Boundary and Water Commission |
| Victor Carrillo | Imperial County Board of Supervisors |
| Dr. Breana Coats | SDSU, Calexico Campus |

The RAC, co-chaired by SWRCB and CNRC, has had a total of 10 public meetings. Ms. Aida Gates, from Senator Denise Moreno-Ducheny's Imperial County Offices, Ms. Juanita Salas from Congressman Filner's Calexico Office, and Mr. Eric Reyes from the Institute of Socioeconomic Justice and a Calexico resident periodically attend the RAC meetings. Anyone who attends the meetings, regardless of membership or affiliation, has been encouraged and afforded opportunities to participate in the process.

**b. Identification of Methods for Maximizing Public and Tribal Participation**

The RAC was established to have representation from and ensure input and collaboration among the many organizations, communities, and governments impacted by the New River (i.e., communities not just in the Calexico area, but also communities downstream from Calexico). The Torres-Martinez Tribe elected not to directly participate in the RAC, but the SWRCB has been successful in recruiting the Salton Sea Authority—a joint powers authority comprised of Imperial County, Riverside County, Imperial Irrigation District, Coachella Valley District, and the Torres-Martinez Tribe. RAC and RAC Subcommittee meetings have been organized and conducted on mostly a monthly basis in Calexico. The SWRCB and CNRC have provided interpreter services at each RAC meeting, and the meetings are advertised well in advance through mailings in English and Spanish to facilitate and maximize public participation. The meetings have been scheduled after regular business hours (typically from five to eight p.m.) at locations reasonably accessible to local residents and people with disabilities (e.g., SDSU, Calexico Campus; Calexico's Good Neighborhood House, etc.).

In addition, the SWRCB has used public meetings organized by other agencies/entities (e.g., International Boundary and Water Commission (IBWC)'s Colorado River Citizens Forum, Citizens Congressional Task Force On New River, New River/Mexicali Sanitation Project Bi-national Technical Committee, Imperial County Clean Air Initiative Working Group, US Environmental Protection Agency (US EPA), California Department of Water Resources (DWR)'s Salton Sea Restoration Project, etc.) as well as the Regional Water Board regularly scheduled meetings to seek input from and inform the public about the

New River project. The CNRC, Salton Sea Authority, and Salton Sea Coalition have consistently participated and provided input into the project.

**Challenges.** In spite of the SWRCB and CNRC efforts to encourage public participation not many Calexico residents have participated and/or provided input into the process. Based on the past ten years of experience in addressing New River pollution from Mexico, some of the reasons for the lack of participation include:

- Long history of New River contamination.
- Limitations of the SWRCB's or Regional Board's regulatory powers to deal with pollution that is generated and discharged in the New River in Mexico.
- Unfulfilled bi-national promises about "expedited" New River cleanup have caused widespread apathy in the Calexico area.

The SWRCB has learned through its project community meetings that some local residents view the project as just one more attempt to do something that will not actually address the sanitation problem and their health concerns. The SWRCB and the Regional Board have conducted several face-to-face meetings with community residents in Spanish (e.g., west side residents) who feel disenfranchised by the project's objectives and implementation. The SWRCB and Regional Board have found that these residents want a full cleanup of the New River including piping the New River out of the Calexico metropolitan area. The residents feel that these actions will prevent some of the health problems that they believe the New River is causing. The SWRCB has scheduled additional meetings with residents, in their neighborhoods, in an effort to further the discussions and find better ways to address their concerns.

### c. Research Health Data, Identify Tools to Conduct Cumulative Impact Analysis

Accomplishing Objective 3 is one of the greatest challenges faced in the project. Results of studies conducted by the CNRC and US EPA, should be considered in a cumulative impact analysis, but may not be completed for some time. Also, existing Calexico air quality data must be factored into the analysis.

### d. Research and Inventory of all Tried or Proposed Precautionary Approaches

The RAC spent the better portion of its first three meetings discussing existing and proposed measures and precautionary approaches (PAs) to address New River pollution. The SWRCB/RB compiled the results in a December 2005, inventory, which was amended in October 2006, to the following:

i. Recognize the proposal from the concerned citizens on the west side of Calexico to pipe the river outside of Calexico and the proposal from the CNRC to pipe and treat the river even though the RAC is not pursuing these proposals as precautionary approaches.

ii. Include and accept as part of the project the proposal from concerned citizens to have special outreach and educational meetings in the west side of town.

**Discussion:** Piping the New River as proposed by the concerned citizens (i.e., from the Border to Highway 98) would transfer the problem from one place to another, and would not be an effective precautionary approach to mitigate health impacts. The Regional Board acknowledges that it would make it easier for Calexico to develop riparian land on the west side (address cumulative economic impacts) and would eliminate the unsightly water conditions (cumulative aesthetic impacts). CNRC proposes that it should be "piped" and treated at the end of the pipe. While the RAC supported this proposal, it was not supported as a precautionary approach because of the scope of the proposal and implementation time that would exceed 5 years. This proposal may also be cost prohibitive and would have significant bi-national policy implications that need to be fully evaluated (e.g., being responsible for treating wastes from Mexico, not having overall control over the quality of the incoming wastes, permitting issues, etc.).

The bi-national projects for the Mexicali II area (i.e., the new wastewater treatment facility for Mexicali II) were scheduled to go on-line in November 2006 and were expected to result in significant water quality improvement of New River at the Border. In October 2006, at the request of the SWRCB, the Regional Board projected the water quality improvements for the New River at the Border once the new waste water treatment facility (WWTF) (a.k.a. "Las Arenitas WWTF") went online as shown below in Table 2.

**Table 2. Water Quality Improvements for New River**

| Parameter | Current Load (before Las Arenitas) | Projected Load (right after Las Arenitas & Other Projects) | Lbs/day of Pollutants Removed |
|---|---|---|---|
| River Flow (million gallons per day (mgd)) | 140 | 110 | NA |
| Raw sewage (mgd) | 12-20 | < 0.1 | NA |
| BOD (lbs/day) | 45,000 | 25,000 | 20,000 |
| TSS (lbs/day) | 45,000 | 25,000 | 20,000 |
| Nutrients[1] (lbs/day) | 2,200 | 1,200 | 1051 |
| Fecal Coliforms (Most Probable Number (MPN)/100 ml) | 100,000-16,000,000 | 1,000-16,000 | NA |

[1] Expressed as Total Phosphates. Ortho-Phosphate is the limiting nutrient for Salton Sea.

Because the Regional Board projected ongoing bacterial pollution in the New River even after the new WWTF for Mexicali II went on-line to eliminate the 12-15 million gallons per day (mgd) of raw sewage in the New River, the RAC decided in November 2005, to focus its efforts on identifying and implementing PAs in the form of disinfection to deal with pathogens in the river. These measures are consistent with the overall goal of the

project and the working definition of PAs. To accomplish these tasks, the RAC formed a Technical Subcommittee to deal with the disinfection and a ChERRP subcommittee.

In April 2006, following several Technical Subcommittee meetings[1], the Technical Subcommittee recommended chlorine disinfection of the river as the more viable option to treat the bacteria. Subsequently, the RAC asked its Technical Subcommittee to come up with cost estimates and options to finance and implement disinfection of the New River. To accomplish this task, the Regional Board prepared a Quality Assurance Project Plan (QAPP) to determine the levels of bacteria present in the New River once the Las Arenitas WWTF for Mexicali was on-line. The QAPP was necessary to determine the appropriate chlorine dosage to reduce the threat that bacteria pose to people who come in contact with the water. The SWRCB began implementing our QAPP in November 2006, following startup of the Las Arenitas WWTF.

While the SWRCB is pleased to report to Cal/EPA that the Regional Board sampling of the river does show that the water quality of the New River has significantly improved as a result of the Las Arenitas WWTF, and that Mexico has eliminated the 12-20 mgd of raw sewage in the river[2], residual bacterial pollution is still measured at densities that exceed the SWRCB's water quality standards. The RB's sampling shows that fecal and Escherichia coli (E. coli) bacteria levels dropped from the 9,000,000 Most Probable Number (MPN)/100 ml to as low as 20,000 MPN/100 milliliters (ml). The 30-day geometric mean standards for the New River at the Border for fecal and E. coli bacteria are 200 and 126 N/100 ml, respectively. The SWRCB expects bacteria levels to drop even more (in the low 10,000s) once the New River drainage system achieves steady-state conditions.

Based on these residual pollution levels, the SWRCB's preliminary estimates indicate that it would cost approximately $400,000/year to use chlorinate the partially treated domestic wastewater in the New River. The capital cost for these disinfection facilities is approximately $750,000. These costs are similar to the costs the SWRCB had projected for the RAC in July 2006. At the last RAC meeting, the RAC requested that this proposal and associated costs be presented to the RAC, the public and elected officials for the area, and Calexico residents during a workshop to be held in October 2006, for public review and comments. That workshop was re-scheduled to December 2006. The RAC also recommended that piping of the New River from the Border to Highway 98 and treatment of its wastewater at the end be pursued and evaluated as an appropriate extension of this project to deal with the residual pollution in the long-term.

[1] The subcommittee also evaluated disinfection using ultraviolet (UV) light or Ozone and concluded that these were not practical for the New River. UV light, besides requiring significant infrastructure, would work only if the New River would receive additional treatment to remove total suspended solids (TSS), which are known to interfere with proper UV disinfection. Removing the TSS would make disinfection cost prohibitive. Ozonation requires significant technical expertise and special infrastructure. It is not widely used in the United States for these and other reasons (e.g., it is typically more expensive than using chlorine).

[2] This also resulted in significant abatement of the nuisance odors that were caused by the raw sewage in the New River.

**e. Develop and Implement a Children's Health Environmental Risk Reduction Plan (ChERRP)**

On March 22, 2006, the SWRCB presented to the RAC a proposed outline for the ChERRP. The RAC asked the SWRCB to finalize drafting the ChERRP, but at the June 2006 meeting it requested that the ChERRP be rolled out in draft form and presented to the RAC, the public, the elected officials for the area, and Calexico residents during a workshop to be held in October 2006. The RAC was not able to meet after the June 2006 meeting because its CNRC co-chair accepted a new job. In September 2006, CNRC hired its new Executive Director, who agreed to wait until December 2006, to present the draft ChERRP and chlorination proposal. This timing would provide CNRC and other RAC members with additional time to re-evaluate these PAs and do additional outreach and education in the community. The SWRCB tasked Delta Collaboration to develop a strategy to introduce the ChERRP to affected stakeholders. The SWRCB has not yet held the workshop because the SWRCB, the RB, and CNRC are having meetings with the disenfranchised citizens to exchange ideas about the PAs and find ways to accommodate the citizens' concerns to the extent practicable.

**f. Evaluate Existing and, as necessary, Establish New Long-Term Strategies To Reduce Farm Runoff Contaminants**

In October 2006, the SWRCB updated the impaired surface waters list, which in part, prioritizes the development and implementation of additional Total Maximum Daily Loads (TMDLs) in the Imperial Valley to address pollution from agricultural sources. The SWRCB also added, for the New River, other agricultural pollutants (e.g., pesticides) requiring TMDLs.

Silt TMDLs for the Imperial Valley require an update to the RB on a triennial basis on the progress made by the farming community to comply with the measures and load allocations for reducing silt from farm land. Silt carries insoluble pesticides (e.g., Dichloro-Diphenyl-Trichloroethane (DDT)) and other pollutants (e.g., nutrients). In September 2006, the RB began reviewing TMDL monitoring data submitted by the farming community. The RB anticipates a briefing at its June 2007 regularly scheduled public meeting in La Quinta. The RB's data indicate that the farming community is in overall compliance with TMDL requirements and in some regards is ahead of the load reduction milestones required by all of their TMDLs, not just the silt TMDL for the New River. On a related note, last year the RB also completed the problem statement and numeric target for the Nutrient TMDL for the Salton Sea. This TMDL addresses nutrients from farmland and from municipal WWTFs in the Salton Sea Watershed (e.g., Calexico's WWTP). The RB expects completion of this TMDL in 2009.

**g. Evaluate Existing And, As Necessary, Establish New Long-Term Strategies To Work With The Mexican Government To Reduce Raw Sewage Flows In The New River**

Analyses of New River water quality data and observations of New River pollution in Mexico indicate that Mexico has been progressively reducing discharges of raw sewage

into the New River since the implementation of the bi-national projects in 1997. In October 2006, the RB highlighted the need to complete overdue milestones, emphasized the bi-national cooperation at all levels of government and financial assistance which enabled timely completion of these projects. In November 2006, Mexico substantially eliminated the 12-20 million gallons of raw sewage that were routinely present in the New River. Bi-national cooperation has been and continues to be one of the key SWRCB strategies in dealing with pollution from Mexico.

While the sewage component of the New River seems to be under control, Mexico still needs to address other point and non-point sources of pollution which are impairing the New River in California, including trash, agricultural runoff, storm water and urban runoff.